1.0 INTRODUCTION

This Transportation Management Plan (TMP) was prepared to support the further development of the National Naval Medical Center (NNMC) campus in Bethesda, Maryland, as required primarily by land use changes stipulated by the Defense Base Closure and Realignment Act of 1990 (BRAC Law). This law, as amended in 2005, mandates the realignment of certain medical functions from the Walter Reed Army Medical Center (WRAMC) in Washington, DC to the NNMC Bethesda campus which would then become the Walter Reed National Military Center (WRNMMC). In addition, the NNMC Master Plan is concurrently being updated to reflect the new mission of the WRNMMC.

The NNMC has prepared an Environmental Impact Statement (EIS) to determine the potential impacts, including those transportation-related, that would likely result from the planned land use changes. The EIS evaluated two development alternatives which would each add 2,200 employees to the campus. However, the potential transportation impacts of 2,500 additional employees were evaluated as a conservative approach, to include other staff that would be required to support future additional campus development. The EIS has identified potential transportation impacts and mitigation measures, including the implementation of an effective Transportation Management Plan (TMP) to be developed as part of the ongoing Master Plan study process. The TMP follows the EIS recommendations.

Apart from mitigating the projected transportation impacts identified by the NNMC EIS report, this TMP was prepared in compliance with federal requirements and goals established by the National Capital Planning Commission (NCPC) and documented in the GSA/MWCOG/NCPC TMP Handbook[1]. The requirements stipulate that federal agencies with master plan projects resulting in over 200 employees will prepare and effectively implement a TMP approved by NCPC.

The GSA/MWCOG/NCPC Handbook stipulates that the TMP will include broad goals and objectives for reducing vehicular trips, influencing positive mode split changes, and increasing vehicle occupancy ratios, all of which are targeted towards reducing congestion and pollution levels. The TMP will also provide a description of existing and potential measures for achieving the stated goals and objectives. The TMP must be followed up with the execution of an implementation plan and a monitoring and evaluation program. The latter would facilitate an assessment of the effectiveness of the goals and objectives, and the implementation of necessary adjustments.

The TMP will also relate to the transportation management and air quality requirements of the local, state, and federal agencies, including working cooperatively with affected agencies to address those requirements. These requirements include the pollution reduction and clean air standards established by the 1990 Clean Air Act Amendment. This NNMC TMP document conforms to the above requirements. The key elements of the TMP are presented in the sections following.

[1] *"Implementing a Successful Transportation Management Program, 2008", General Service Administration (GSA), Metropolitan Washington Council of Governments (MWCOG), NCPC.*

2.0 BASELINE (PRE-BRAC) CONDITIONS

2.1 Site Description

The NNMC campus is located in Bethesda, Montgomery County, Maryland. The 243-acre center is bounded roughly by the Capital Beltway (I-495) and Cedar Lane to the north, the North Chevy Chase community to the east, Jones Bridge Road to the south and Rockville Pike (MD 355) to the west. The campus is also situated approximately one mile north of the Bethesda Central Business District. Other key surrounding land uses include Rock Creek Park to the north, Chevy Chase communities to the east and south, and the National Institutes of Health (NIH) and the Medical Center Metrorail Station to the west. Direct access to the site is provided via five gates, two of which are along MD 355 and the others are along Jones Bridge Road. Figure 1 shows the location of the NNMC campus within its regional context.

2.2 Access

2.2.1 Highway Access

Regional access to the NNMC campus is provided primarily by the Capital Beltway (I-495) and I-270 freeway systems, and arterial facilities including Rockville Pike (MD 355), Connecticut Avenue (MD 185), Old Georgetown Road (MD 187), Jones Bridge Road and Cedar Lane. Direct access to the center is provided by Rockville Pike and Jones Bridge Road. The NNMC Environmental Impact Statement (EIS) indicates that there is excessive peak period and directional congestion and delay along these roadways. Notably, traffic congestion occurs along Rockville Pike, Old Georgetown Road and Connecticut Avenue in the southbound direction during the morning peak period, and in the northbound direction during the afternoon peak period. There is also excessive traffic congestion in the eastbound direction along the Capital Beltway, during the afternoon peak period.

2.2.2 Pedestrian Access

The conditions of sidewalks, crosswalks and related signage along MD 355 and Jones Bridge Road were also noted. Notable deficiencies are narrow sidewalks without adequate buffer separation from adjacent traffic, utility poles obstructing pedestrian right-of-way, lack of "zebra" striping at some major intersection crosswalks, poorly marked crosswalks and lack of crosswalks at side streets and NNMC entrances. Pedestrian-related signs are in good condition, and are well placed along those roadways.

Accident data records were obtained from the State and County for the key external intersections, with respect to the last four (4) years for which such data was available. The data does not indicate any significant safety deficiencies, nor does the data satisfy the State criteria for designation as a Candidate Safety Improvement Location (CSIL) for any location.

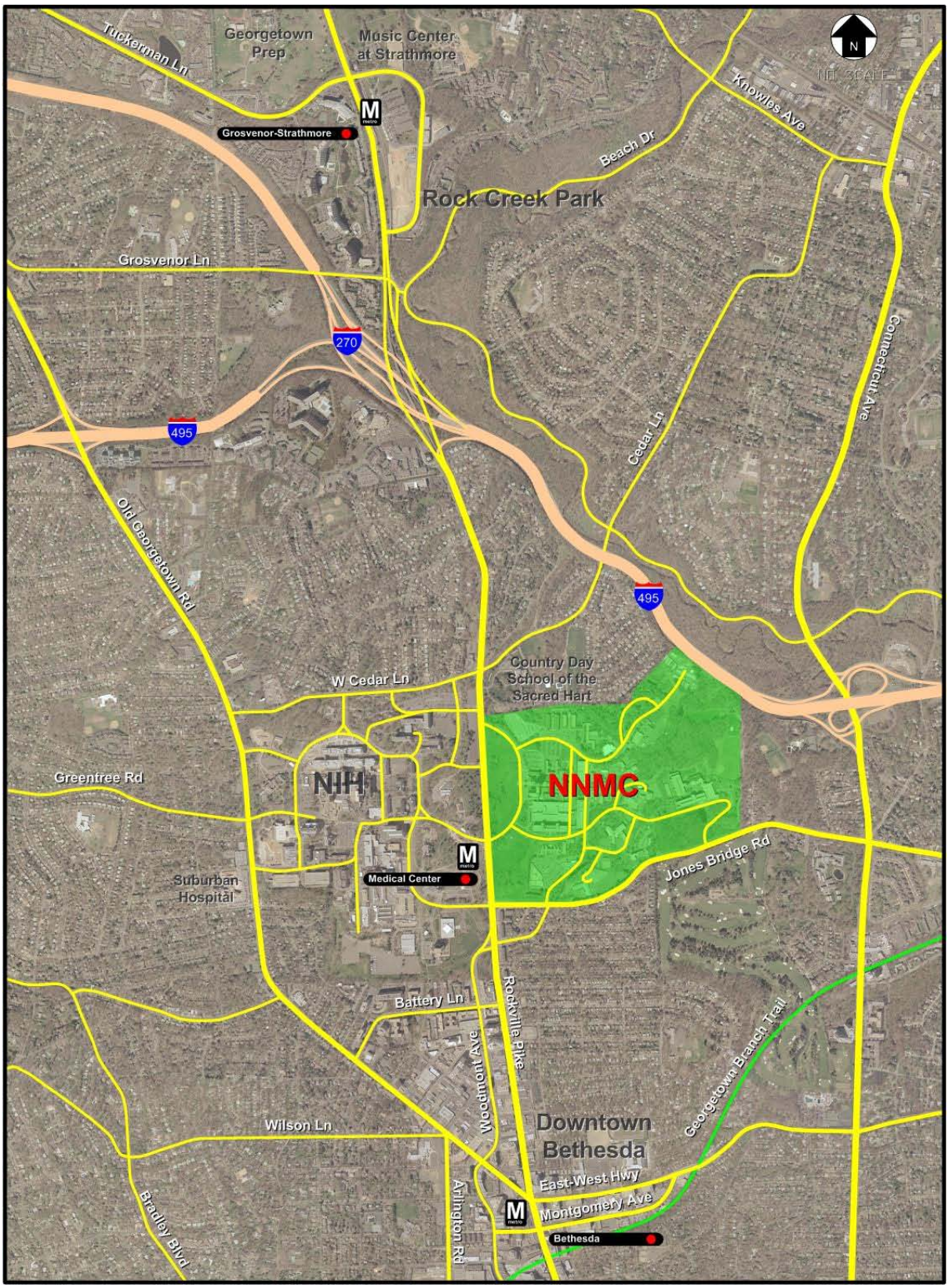

Figure 1 - NNMC Site Location Map

2.3 Site Access Situation

Access to the NNMC campus is provided via the following five entrances/gates:

- Rockville Pike at North Wood Road (North Gate);
- Rockville Pike at South Wood Road (South Gate);
- Jones Bridge Road at Gunnell Drive (Navy Exchange/NEX Gate);
- Jones Bridge Road at Grier Drive (Navy Lodge Gate); and
- Jones Bridge Road at University Road (USUHS Gate).

The locations of these entrances are shown in Figure 2. The two Rockville Pike gates are connected by an internal loop road (Wood Road). The northern entrance (North Gate) is located just south of Cedar Lane, and is aligned with the entrance to the NIH truck inspection facility. The North Gate is configured with three lanes, two lanes can serve inbound traffic and one outbound lane. The entrance is closed from 7:00 PM to 5:00 AM from Monday to Friday, and on weekends and holidays. Overhead electronic signal devices have been installed at the entrance to North Wood Road. These devices delineate traffic lanes with either a Green "Down Arrow" (acceptable lane of travel) or a Red "X" (not an acceptable lane of travel).

The southern entrance (South Gate) is the main entrance to the campus, and is located across Rockville Pike from the NIH South Drive entrance and the Medical Center Metrorail Station. This gate is open all the time, except when there is activity related to the use of the adjacent heliport facility. The entrance is configured with one inbound lane and two outbound lanes. The South Gate is also the main access point for pedestrian traffic, most of which is generated by the adjacent Medical Center Station.

The three entrances along Jones Bridge Road are located at Gunnell Road (Navy Exchange / NEX Gate), Grier Road (Navy Lodge Gate) and University Road (USUHS Gate). The Gunnell Road/Navy Exchange Gate is open to two-way traffic, from 5:00 AM to 7:00 PM from Monday to Friday, and is closed at all other times including weekends and holidays. One travel lane is provided in each direction along Gunnell Road. The Grier Road/Navy Lodge Gate has a divided roadway cross-section, providing one inbound lane and two outbound lanes. All commercial vehicles are inspected at this gate between 5:00 AM and 3:00 PM from Monday to Friday. The gate is closed for truck inspections at all other times. Truck inspections outside of this timeframe are conducted at the South Gate. Only inbound traffic is served from 5:00 AM to 3:00 PM. Between 3:00 AM – 6:00 PM, the gate serves outbound vehicles. The University Road/USUHS Gate is open to one lane inbound traffic between 5:00 AM to 8:30 AM from Monday to Friday, and is closed during other times.

Vehicular turning movement counts at the gates as part of this study were used to determine the trip generation characteristics of the campus. The AM and PM peak hours of NNMC vehicular traffic were determined to be 6:30 - 7:30 AM and 4:00 - 5:00 PM, respectively. The adjacent ambient traffic peak hours were determined to be between 7:45 - 8:45 AM and 4:30 -5:30 PM.

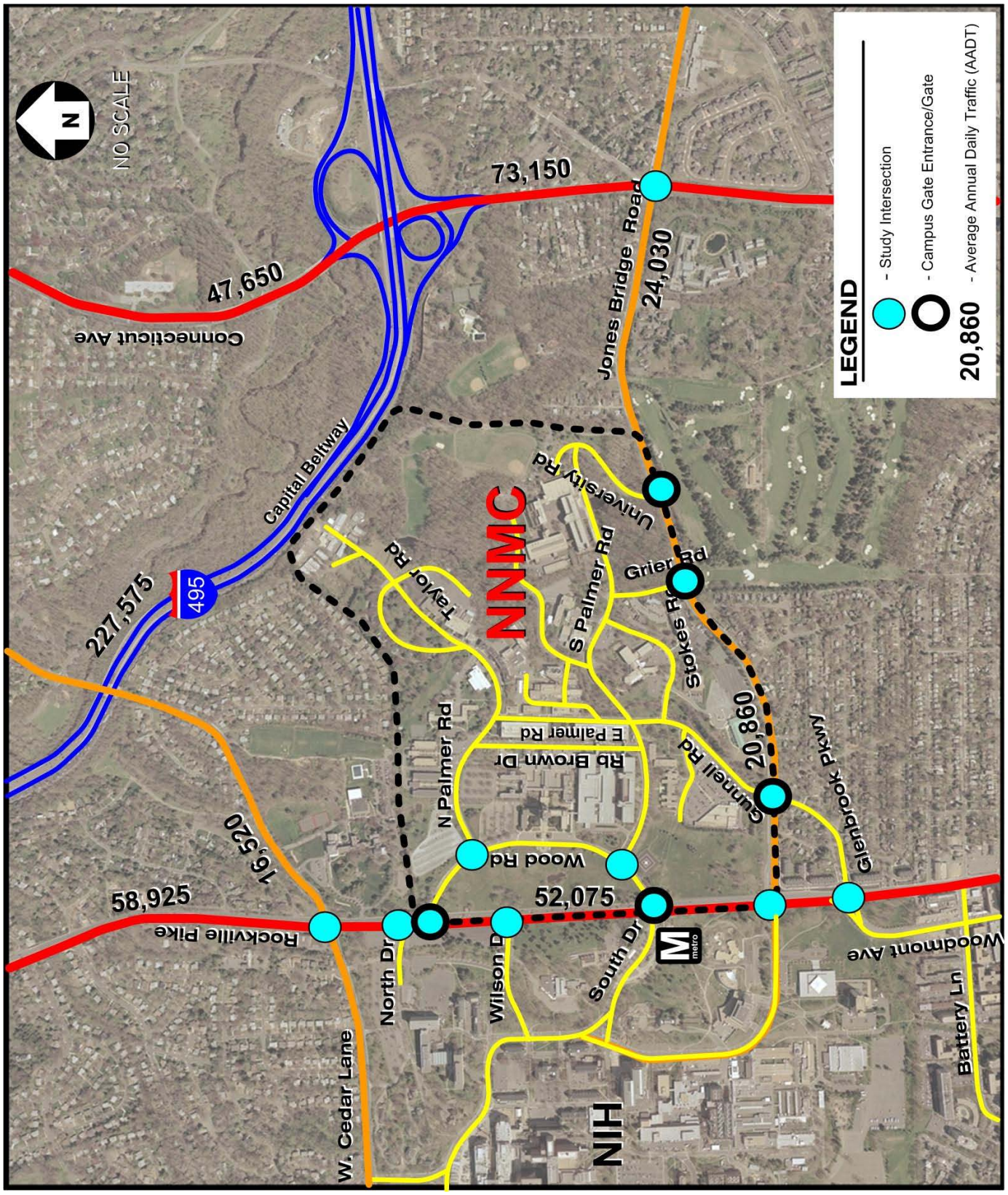

Figure 2 - NNMC Study Area Map

2.4 Public Transportation

The NNMC is well served by public transportation facilities as shown in Figure 3. The campus is situated across Rockville Pike from the Medical Center Metrorail Station on the Red Line of the Washington Metropolitan Area Transit Authority (WMATA). This station is also a major stop/transfer point for several WMATA and Montgomery Ride-On bus routes. The station opens at 5:00 AM on weekdays and at 7:00 AM on weekends; and closes at 12:30 AM from Sunday through Thursday, and at 3:30 AM on Friday and Saturday. The station is served by six-car and eight-car trains which provide headways of 3 to 6 minutes during the peak weekday morning and afternoon periods, and with headways of 6 to 15 minutes during the weekday off-peak periods. A recent WMATA system-wide study[2] indicates that there are no capacity deficiencies on the Red Line. This situation is expected to continue until 2030. The baseline (Pre-BRAC) number of weekday boardings/alightings at this station is 5,100, representing an 88% increase since the opening of the station in 1985. During the weekday morning peak period (5:30 – 9:30 AM), approximately 2,845 riders use this station. A significant amount (1,780 or 63%) of those riders arrives at this station as their destination to work.

The Metrobus routes serving the campus are noted below:

- J1 route provides rush hour service, with 30-minute headways, between the Silver Spring and Medical Center Metrorail Stations, and runs along Jones Bridge Road.
- J2 and J3 Routes offer through service between the Silver Spring Metrorail Station and Montgomery Mall, with intermediate stops in the Bethesda CBD and at the Medical Center Metrorail Station. These routes provide 7-minute headways during peak hours, and 20-minute headways during off-peak hours.
- Routes J7 and J9 are the two new lines that comprise the "I-270 Express". They run between the Lake Forest Transit Center Station and the Bethesda Metrorail Station.

There are six (6) Ride-On Routes serving the Medical Center Metrorail Station. These are as follows:

- Route 30 is a local collector route that circles through the neighborhoods before terminating at the Bethesda Metrorail Station.
- Routes 33 and 34 provide rush hour service to/from Wheaton Plaza via separate routes.
- Route 42 provides service to Friendship Heights via Woodmont and Wisconsin Avenues.
- Route 46 connects NNMC with Rockville via Rockville Pike, with 20-minute headways and primarily serves as a feeder to the Metrorail Stations along this route.
- Route 70 is a new express service running between the Germantown Milestone park-and-ride lot and Bethesda.

[2] "Future Metrorail Capacity Needs", WMATA Planning, Development and Real Estate Committee; April 24, 2008.

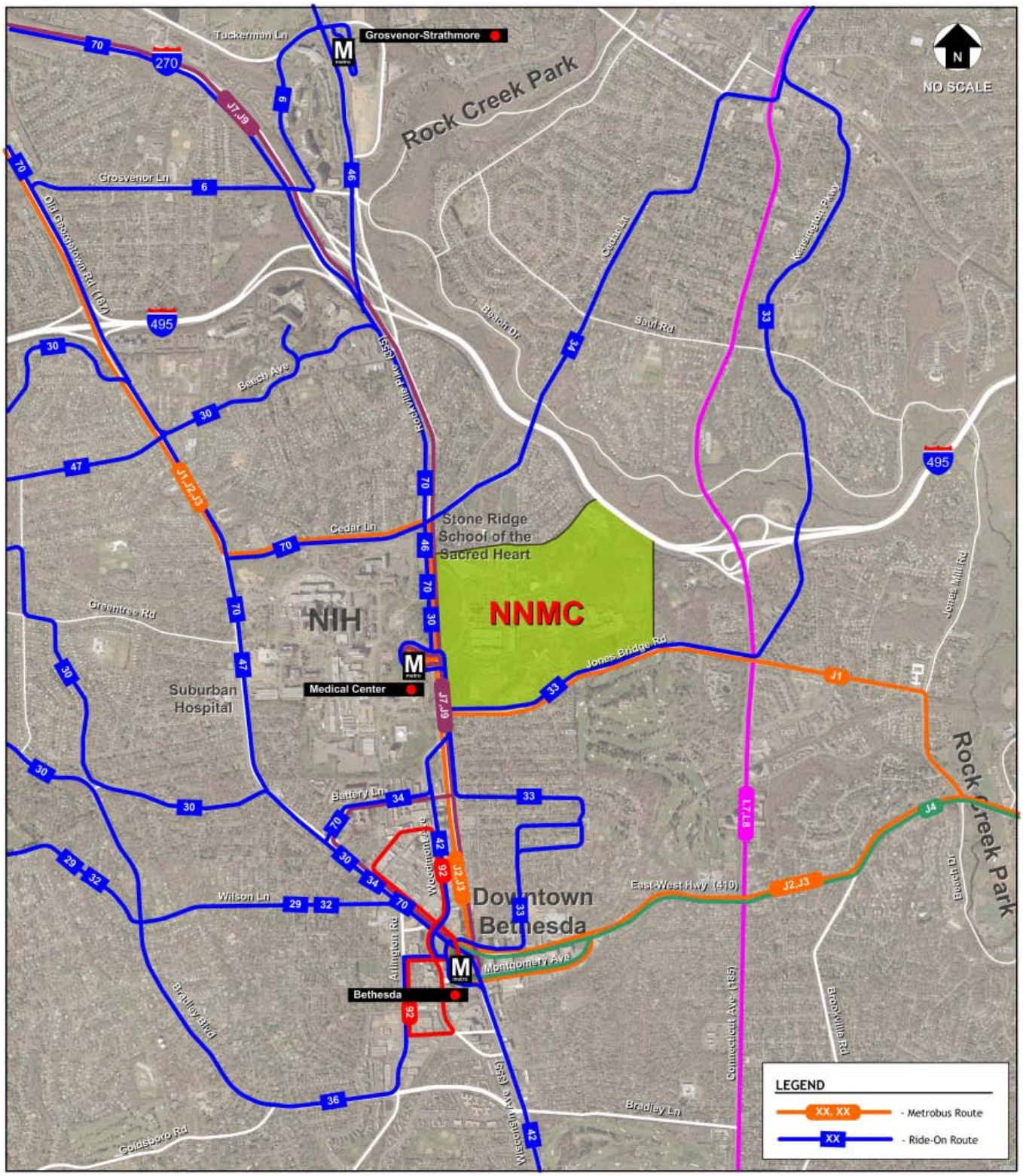

Figure 3 - Baseline (Pre-BRAC) Public Transportation

Heavy rail commuter service is available via the Maryland Rail Commuter (MARC) "Brunswick" line. Trains originate in Martinsburg, West Virginia, or Brunswick and Frederick in Maryland, and travel to Union Station in Washington, D.C. in the morning hours with reverse movements occurring in the evening. MARC currently operates nine (9) trains inbound to Washington in the morning and ten (10) trains outbound in the evening. All stop in Rockville about six miles to the north of the NNMC Bethesda campus, where a connection can be made to the Metrorail Red Line.

2.5 Shuttle Service

NNMC operates two shuttle bus lines, i.e., the Blue Line and the Gold Line during the campus AM and PM peak periods. Both shuttle services connect major campus buildings to the Medical Center Metrorail Station from approximately 6:10 - 8:55 AM and 2:45 - 5:25 PM, Monday through Friday. Typical headways/intervals for each route are approximately 15 minutes.

The Blue Line Shuttle begins at the Medical Center Metrorail Station and runs primarily along South Palmer Drive, branches out on Stokes Road, loops around the Child Development Center (Day Care) and returns back to South Palmer Drive and continues down to loop around the USUHS underground garage. In April 2008 the ridership was 108 passengers per day.

The Gold Line Shuttle also begins at the Medical Center Metrorail Station runs along South Palmer Drive, branches out at Brown Drive, joins onto Taylor Road, continues towards the Research Institute to loop around the Navy Call Center and Health Services Building, before retracing its path back to South Palmer Drive, from where it branches out to Stokes Road and loops around the Child Development Center before returning back to the starting point. In April 2008 the ridership was 79 passengers per day. Both NNMC Shuttle bus routes are shown in Figure 4.

The NNMC is also accessed by shuttle bus services operated by other DOD agencies. These include the Walter Reed Army Medical Center, Annapolis Naval Station, Patuxent River/Naval Air Station and Quantico Marine Corps Base. The service is for official business and not intended to support commuters.

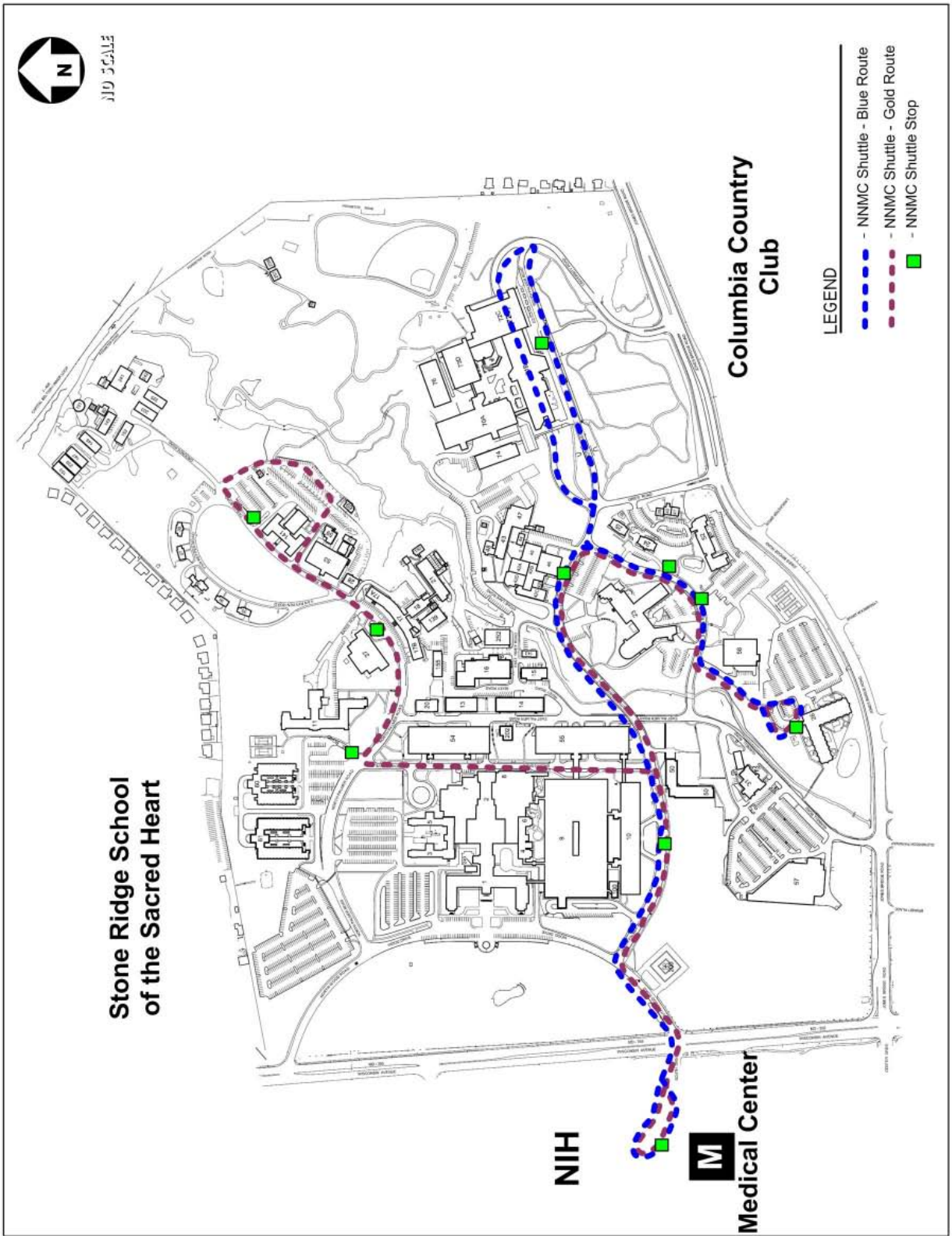

Figure 4 - NNMC Shuttle Services

2.6 Baseline (Pre-BRAC) Parking

The baseline (Pre-BRAC) period refers to May 2008. A parking survey conducted during that period indicates that the NNMC campus is served by 6,083 parking spaces. These parking spaces are utilized for a number of different purposes including patients, visitors, commercial retail, staff lodging, transient visitor lodging, resident doctors and students, government vehicles, volunteers staff (including shift workers) and handicap needs. The locations of the campus parking facilities are shown in Figure 5 breakdown of the parking by facility type and major user category is presented in Tables 1 and 2, respectively. A detailed parking inventory is presented in Appendix B.

Table 1 Parking Space Distribution by Facility Type

Structured Parking	3,087 (51%)
Surface Parking Lot	2,760 (45%)
On-Street Parking	236 (4%)
TOTAL	6,083 (100%)

Table 2 Parking Space Distribution by User Category

Parking User Category	Spaces
Staff[1]	2,863
Patients [2]	1,544
Retail and Commercial Visitors [3]	1,157
Others [4]	519
TOTAL	6,083

Notes:

1. Staff category includes medical staff, Dental Staff, Staff Lodgers, warehouse staff, contractors, major tenants like USUHS (students) and AFFRI, other administration staff, childcare staff, volunteers, Resident Doctors and other reserved spaces for Senior NCO's and Officers.
2. This category includes medical In/Out patients.
3. Apart from the NEX store, this category includes the Quik Mart/NEX Gas Station and McDonalds, bowling alley, and package store. This category also includes visitors of the patients that are part of the temporary lodging provided at the Navy Lodge and the Fisher Houses.
4. Other categories include: Primarily Barracks Lodgers and Government Vehicles. Government Vehicle parking areas includes all motor pool, police and security vehicles, ambulances, shuttle buses, buses and contractor vehicles located full-time at NNMC. The barracks lodging includes three existing BEQs.

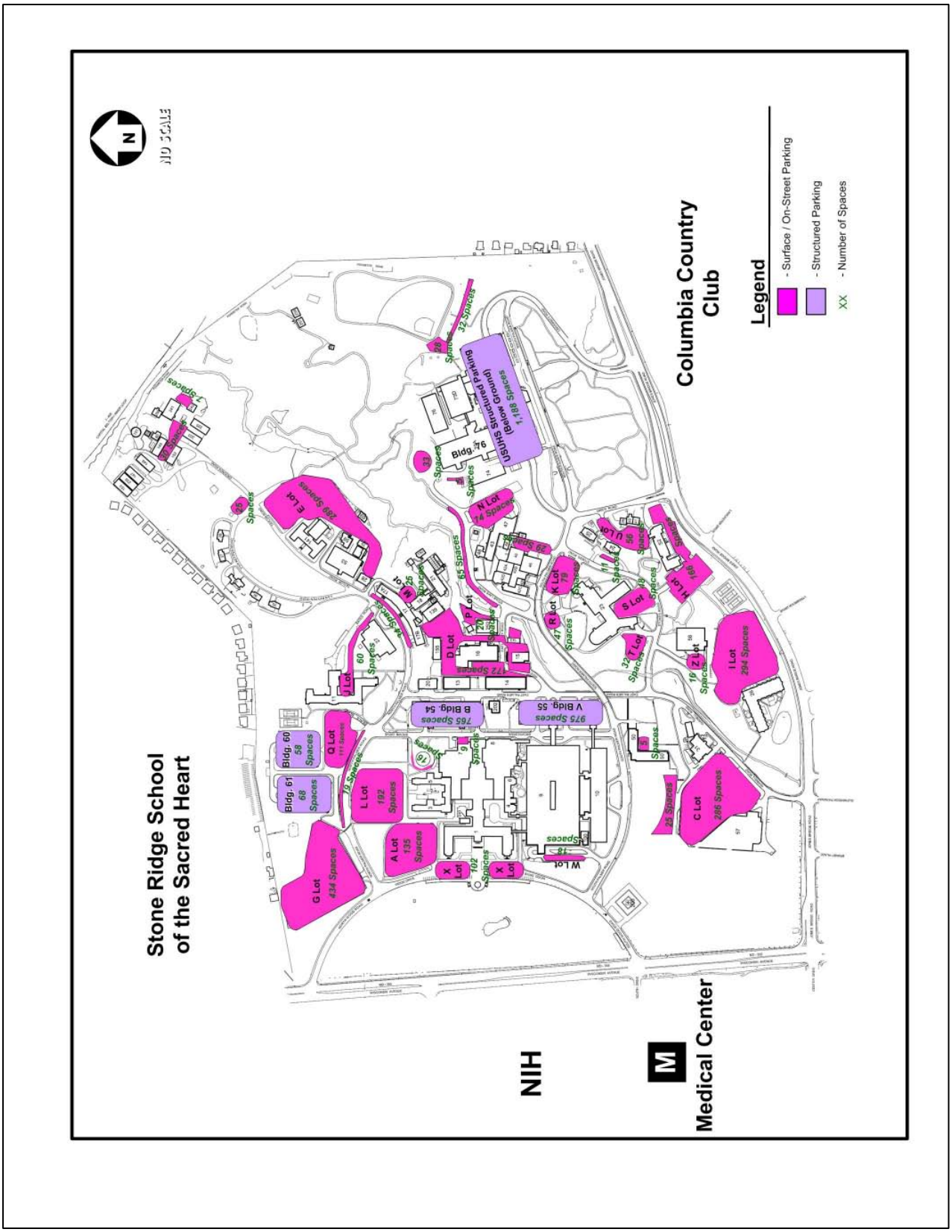

Figure 5 - Baseline (Pre-BRAC) Distribution of Parking within Campus